CHAPTER 14
AFTER ACTION REVIEW (AAR) LIST
LESSON PLAN 14

METHOD:

Conference, demonstration, and practical exercise

TIME ALLOTTED:

4.0 hours

COURSE PRESENTED TO:

a. Unit NCOs
b. Instructors
c. TSC personnel

TOOLS, EQUIPMENT, AND MATERIALS:

See Appendix A

PERSONNEL:

a. Primary instructor
b. Assistant instructor

INSTRUCTIONAL AIDS:

a. TDRS computer unit
b. Overhead projector
c. Viewgraphs (Appendix F)

REFERENCES:

a. TDRS computer unit
b. TM 9-6920-711-12&P-1

APPENDICES:

Appendix A. Tools, Equipment, and Materials
Appendix B. Safety
Appendix C. Test Administrative Guide
Appendix D. Practical Exercises
Appendix E. Student Handout
Appendix F. Viewgraphs

14-1. INTRODUCTION. (5 minutes)

Note. Show Slide 1.

a. **Reason.** The AAR list program used with TWGSS/PGS provides a tool to evaluate gunnery and force-on-force training exercises. To be able to extract information required to conduct an AAR, the instructor must be able to prepare the AAR and operate the AAR list program.

Note. Show Slide 2.

b. **Training Objective.** In a classroom environment, given a TDRS computer unit, student handout (Appendix E), and TM 9-6920-711-12&P-1, you will perform the following:

(1) Operate AAR list controls and indicators.
(2) Set up an AAR list screen.
(3) Prepare an AAR.
(4) Download/store AAR data.
(5) Download AAR data to EXCEL®.
(6) Perform AAR for tracking training exercise.

c. **Procedures.** During this block of instruction, we will discuss the controls, indicators, and features of the AAR list program. You will be assigned an assistant instructor for the practical exercise portion of this class.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE. (230 minutes)

Notes. 1. The primary instructor will release the students their assigned assistant (small group) instructor for the practical exercise portion of this lesson.
2. Students must have the setup program started.
3. Discuss AAR list controls and indicators.
4. Insert the TDRS memory card containing firing and target data in the computer. Have each student read data from the TDRS memory card by selecting READ LOG.
5. Show Slide 3.

a. **AAR Capabilities.** The TDRS computer unit is equipped with software that can perform an AAR of TWGSS/PGS training exercises by two methods.

(1) **AAR LIST.** This method evaluates and presents detailed information of each event during the training exercise.

Note. Inform the students that AAR map will be discussed in the next lesson.

(2) **AAR MAP.** This method presents tank position on a map of the exercise area during the AAR.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

Note. Show Slide 4.

b. **AAR List.** The AAR portion of the setup is started by selecting AAR LIST. The AAR LIST screen is divided into five major areas.

(1) Organizational data (item 1)
(2) Graphic display (item 2)
(3) Command buttons (item 3)
(4) List controls (item 4)
(5) Event list (item 5)

Note. Show Slide 5.

c. **Organizational data.** This area displays user data programmed on the TDRS memory card.

(1) **Players ID library.** When several TDRS memory cards are downloaded, Players ID (item 6) contains the identity of the cards. Click on the drop down list box to view all players and click on a new identity to change.
(2) **Name and unit.** The user data (item 9) for each TDRS memory card selected is displayed on four lines of text. This data was stored on the TDRS memory card and downloaded into the TDRS computer unit.
(3) **Application.** Application (item 7) indicates the vehicle type during the training exercise.
(4) **Application picture.** Each application has a picture (item 8) assigned to it and is shown in this display window.

Notes. 1. Have students select a firing result in the events list.
2. Show Slide 6.

d. **Graphic display.** This area displays information about a selected firing or target event in the event list (item 15). Click on the desired event to display.

(1) **Controls and indicators.** The following controls and indicators are available on the graphic display menu:

(a) Ammunition fired/range-to-target. Information about the ammunition fired and the range-to-target is located under the target (item 13).
(b) Impact point. The impact point is displayed against a silhouette of the target and is presented in relation to center of mass (item 12).
(c) Event time. The time and date of the selected event is displayed in the graphic display area (item 10).
(d) Turret position. The position of the turret in relation to the hull at the time of impact is presented on the right side of the screen (item 14).

(e) Clear pushbutton. The clear pushbutton (item 11) clears the impact points from the target silhouette with the exception of the impact selected from the event list.

Note. Show Slide 7.

(2) **Panel gunnery result presentation.** Two types of silhouettes are used for result presentation.

(a) Panel target silhouette. Panel target silhouette (item 16) is used for evaluation of panel gunnery exercises. This silhouette is pre-programmed to replicate the size of standard NATO panels (item 17). Each ammunition type has its own size and outline, depending on the type of target the ammunition is designed to be used against. The following silhouettes are used:

Note. Show Slide 8.

1. 105/120 mm SABOT - T 80 front
2. 105/120 mm HEAT - T 80 front
3. TOW/TOW2 - T80 front
4. 25 mm AP - BMP front
5. 25 mm HE - BMP front with ground plane
6. 7.62 - Troop target (kneeling soldier)

Note. Show Slide 9.

(b) General silhouette selection. The general silhouette (item 18) is used for firing results collected during force-on-force training exercises or when targets are not assumed to be a predefined type. A generic template is used for all ammunition and target types that can be used during a force-on-force exercise. General silhouette can be used to evaluate flank and front engagement results with ammunition type and range-to-target presented at the bottom of the silhouette presentation area.

Notes.
1. Aspect angle presentation of a turret hit is related to the aspect angle of the turret.
2. Aspect angle presentation of a hull hit is related to the aspect angle of the hull.
3. Have students select a target result in the events list.
4. Show Slide 10.

(3) **Panel target silhouette.** The panel target silhouette (item 19) used for a target simulation is retrieved from the application under review. The target impact is presented on the aspect angle of actual vehicle silhouettes used by the target system in evaluating impacting rounds. The indicated impact point is where the target system evaluated the impact to occur.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

Note. Show Slide 11.

e. **AAR List Command Buttons.** There are six command buttons used to read and store data during the AAR.

(1) **Read Log.** Click on this button (item 21) for the computer to read information stored on the TDRS memory card and present it in the events list.
(2) **Clear.** Click on this button (item 22) to clear selected training results from the events list.
(3) **Read saved.** This button (item 23) enables the instructor to read and present data during AAR from previously saved files without inserting a TDRS memory card. Saved files must be deleted from the hard drive prior to returning the computer to the Training Support Center (TSC).
(4) **Save Log.** Click on this button (item 24) to save data on the computer hard drive. This allows for presentation of exercise results after the TDRS memory card has been removed.

Note. Have students save results to the computer hard drive.

(a) Click on SAVE LOG. A dialog box will appear.
(b) The name of the first file in the list will appear in text box. Enter the new file name in the text area. Click on SELECT to save the file.
(c) A dialog box will appear allowing the operator to record helpful notes about the file. These notes must be recorded now as it is not possible to edit or include new notes after clicking on the OK button. If notes are not required, click on the CANCEL button.
(d) To delete a saved file from list, click on the file to be deleted and select DELETE. The file will be deleted from the computer hard drive.
(e) To read note of an existing file, select a file from the list. Click on the INFO button and notes written about the selected file are displayed.

Notes. 1. The printer must be connected when the computer is started.
2. The print driver of the printer used must be installed and selected.

(5) **Print Log.** Click on the Print log button (item 25) to print the events list.
(6) **EXCEL®.** The EXCEL® button (item 26) enables the instructor to quickly store the data to a disk or hard drive. The data is stored in an EXCEL® readable format. A dialog box allows the instructor to save the data as desired.

Note. DO NOT check multiple cards checkbox for panel gunnery.

(7) **Multiple cards.** Select this checkbox (item 20) for force-on-force exercises. This allows several TDRS memory cards to be downloaded into the computer. Fire results will be removed from the AAR list. During panel gunnery, where the fire result is important, ensure that the multiple cards checkbox is NOT checked.

Note. Show Slide 12.

f. **List Controls.** There are five list control checkboxes (items 27-31) to sort data for the AAR. These checkboxes enable the instructor to display only relevant information.

(1) **All events checkbox.** When All events checkbox (item 28) is selected, all information collected during the training exercise and stored in the event log is displayed in chronological order.

Note. Show Slide 13.

(2) **Hits checkbox.** When only the Hits checkbox (item 28) is selected, only target system evaluation information is displayed in chronological order. Target system information consists of:

(a) Impact of rounds fired by TWGSS-/PGS-equipped firing systems
(b) Impact of rounds fired by MILES-equipped firing systems
(c) Control gun (CGUN) activities
(d) Autoactivation of target system (panel gunnery mode only)
(e) Tamper indications (combat mode only)

Note. Show Slide 14.

(3) **Gunnery checkbox.** When only the Gunnery checkbox is selected, only firing results information is displayed in chronological order. Gunnery information consists of:

(a) Firing events
(b) Reload of turret
(c) Reload of hull
(d) Upload of ammunition
(e). Tracking training events

Note. Show Slide 15.

(4) **Other checkbox.** When only the Other checkbox is selected, only the following events are displayed.

(a) LRF. The use of the laser rangefinder.

(b) Laser alignment. Information about events where the laser alignment menu was used.
(c) Power ON

Note. Show Slide 16.

(5) **System checkbox.** When only the System checkbox is selected, only information regarding system errors and built-in test indications during the training exercise are displayed in chronological order.

Note. Show Slide 17.

g. **Events List.** The events list contains training exercise results. Information displayed in the events list is programmed by selecting SET UP and SELECT LOG DATA.

Notes. 1. Have students select SELECT LOG DATA menu.
2. Discuss each column selection briefly.

(1) **Date.** Select Date to display year, month, and day of the training exercise events.
(2) **Time.** Select Time to display hour, minutes, and seconds of the training exercise events.

Note. Show Slide 18.

(3) **Event.** Select Event to display the type of action performed by the crew. The system stores several types of actions.

(a) Fire. FIRE indicates that the crew successfully fired a round.
(b) Target. TARGET indicates that the vehicle's target system received firing information from an attacking vehicle.
(c) Upload and reload. If LOAD is indicated, the crew has transferred ammunition from the hull to the turret during the training exercise. If RELOAD is indicated, the instructor manually uploaded new ammunition to the vehicle using the controller function.
(d) CGUN. CGUN indicates that the instructor has used the CGUN. The actual code transmitted is stored in the Effect column.
(e) LRF. During exercises with TWGSS LRF selected, each activation of the LRF function is stored as LRF and the range presented. For exercises with TANK LRF selected, the LRF activation will not be stored separately but the lased range will be stored as crew range for the engagement result.
(f) BIT. System errors occurring during the training exercise are stored on the TDRS memory card. These can be found at the end of the event list or if selected as the only event to be displayed.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

Note. Show Slide 25.

(4) **Ammo.** There are nine types of ammunition used with TWGSS/PGS. To simulate these ammunition, there are 16 ammunition names defined. Some ammunition change their ammunition number during the flight to simulate the effect that decreased velocity has in the kill probability of a target.

Note. Refer to student handout (Appendix E).

(a) Ammunition simulated by the firing and target system. TWGSS/PGS has a code structure for simulating a variety of ammunition effects. TWGSS/PGS target system is programmed to operate with MILES-equipped attackers. The following ammunition simulations are recorded.

Note. Show Slide 19.

1. **105 mm ammunition.** For the 105 mm main gun, two ammunition are simulated, SABOT and HEAT.

Note. The following is valid for target results only. For fire results, SABOT and HEAT are used.

a. The 105 mm SABOT round has four ammunition names defined: SABOT 105 1=0-1000 m; SABOT 105 2=1000 - 2000 m; SABOT 105 3=2000 - 3000 m; and SABOT 105 4=3000- 4000 m. The Kill probability for SABOT decreases with range. A target result ammunition is presented as SABOT 105 3 for a round fired from a vehicle positioned 2000-3000 m away.

b. The 105 mm HEAT round has one ammunition name defined and is considered range independent regarding its Kill probability.

Note. Show Slide 20.

2. **120 mm ammunition.** For the 120 mm main gun two ammunition are simulated, SABOT and HEAT.

Note. The following is valid only for target results. For fire results, only SABOT and HEAT are used.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

a. The 120 mm SABOT round has four ammunition names defined: SABOT 120 1=0-1000 m; SABOT 120 2=1000 - 2000 m; SABOT 12 3=2000 - 3000 m ; and SABOT 120 4=3000- 4000 m. The Kill probability for SABOT decreases with range. A target result ammunition is presented as SABOT 120 3 for a round fired from a vehicle positioned 2000-3000 m away.

b. The 120 mm HEAT round has one ammunition name defined and is considered range independent regarding its Kill probability.

Notes. 1. The following is valid only for target results. For fire results, only AP and HE are used for 25 mm ammunition.

2. Show Slide 21.

3. **25 mm ammunition.** There are two 25 mm ammunition types simulated, AP and HE.

a. The 25 mm AP round has two ammunition types defined: SABOT 25 1=0-1000 m and SABOT 25 2=1000-1700 m. The Kill probability for AP decreases with range.

b. The 25 mm HE round has one ammunition name defined and is considered range independent regarding its Kill probability.

Note. Show Slide 22.

4. **COAX machine gun.** The COAX machine gun 7.62 mm round is assigned one ammunition name, 7.62. This round is the same for all applications.

Note. Show Slide 23.

5. **TOW missile.**. TWGSS/PGS simulates two types of TOW missiles, TOW basic and the TOW 2.

a. TOW basic has one ammunition number assigned and is considered range independent regarding its kill probability.

b. TOW 2 has one ammunition number assigned and is considered range independent regarding its kill probability.

Notes. 1. Refer to student handout for MILES events presented.

2. Show Slide 24.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

6. **MILES.** TWGSS/PGS utilizes the enhanced MILES code structure, allowing the system to register firing from all MILES-equipped firing systems.

Note. Show Slide 25.

(5) **Actual range.** The Actual range column displays the range between the firing vehicle and its target.

Note. Show Slide 26.

(6) **Azimuth impact result.** The impact point in azimuth related to the defined center of mass is presented. Positive impact points are to the right of the center of mass and negative impact points are to the left of the center of mass. Results presented are as seen from the firing system (attacker) for FIRE and TARGET results.

Notes. 1. For panel gunnery, the defined center of mass is the position of the retro reflector unit.
2. For force-on-force exercises, the correct result is always the TARGET result. The FIRE result could contain offsets related to the azimuth retro reflector positioning. When determining the correct impact point during an AAR for a force-on-force exercise, always locate the impact point in the TARGET result for an engagement and disregard the firing result.

(7) **Elevation impact result.** The impact point in elevation related to the defined center of mass is presented. Positive impact points are above the center of mass and negative impact points are below the center of mass. Results presented are as seen from the firing system (attacker) for FIRE and TARGET results.

Note. 1. For panel gunnery, the defined center of mass is the position of the retro reflector unit.
2. For force-on-force exercises, the correct result is always the TARGET result. The FIRE result could contain offsets related to the azimuth retro reflector positioning. The elevation result compensates for the offset between center of mass and the top-of-turret-installed retro reflectors. When determining the correct impact point during an AAR for a force-on-force exercise, always locate the impact point in the TARGET result for an engagement and disregard the firing result.

Note. Show Slide 27.

(8) **ID.** For a FIRE result, the ID column displays the programmed identity number of the firing vehicle (i.e. the card user). For a TARGET result, the ID column displays the identity of the attacking vehicle.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

(9) **Aspect angle.** This column is applicable to TARGET results only. The aspect angle is the angle of the incoming round that penetrates the vehicle. There are 12 aspect angles for the turret and 12 aspect angles for the hull programmed into TWGSS/PGS. Each aspect angle describes the vulnerability and outline of the vehicle in each 30 degree sector. The 12 sectors relate to clock directions of the turret as seen from the firing direction. The turret position sensor is used to determine the total outline of the target at the instance of impact.

(10) **Effect.** The Effect column displays the effect of the simulation. The effect presented is different for FIRE and TARGET results.

Note. Show Slide 28.

(a) Firing result. Evaluation of the fire result can provide four results.

1. **HIT.** HIT indicates that the ammunition has hit within the preprogrammed template and is considered a hit by the firing system.
2. **GROUND HIT.** GROUND HIT indicates that the ammunition has passed outside the preprogrammed template that TWGSS/PGS uses to evaluate engagements, and the ammunition hit ground. This result is normally combined with an ELEV and AZIM value.
3. **MAX RANGE.** MAX RANGE indicates that the ammunition passed outside the preprogrammed template that TWGSS/PGS uses to evaluate engagements, and the ammunition flew to the maximum simulated range without hitting ground. This result is normally combined with an ELEV and AZIM value.

Note. If MAX RANGE does not contain an ELEV and AZIM result, TWGSS/PGS did not have a visible reflector within field of view. The target could have been obscured or not equipped with a retro reflector.

4. **MISSILE. STALLED.** MISSILE STALLED indicates that gunner guided the missile incorrectly and the missile stalled or flew out of the sight system guide corridor.
5. **MISSILE ABORTED.** MISSILE ABORTED indicates that the missile was aborted by weapon system standard procedures.

Note. Show Slide 29.

(b) Target result.

1. **HIT.** HIT indicates that the vehicle has been hit, but not killed. Kill probability is always provided with this result.

Note. Mobility Kill followed in 30 seconds by a Kill indicates the vehicle was not stopped in time and a Catastrophic Kill was declared.

2. **MOBILITY KILL.** MOBILITY KILL indicates that the vehicle was hit and something in the drive system was damaged. Kill probability is always provided with this result.
3. **WEAPON KILL.** WEAPON KILL indicates that the vehicle's sight or weapon system has been damaged. Kill probability is always provided with this result. Ammunition amount is set to zero for a weapon kill and further firing is not allowed.
4. **KILL.** KILL indicates that the vehicle was HIT and KILLED. Kill probability is always provided with this result.
5. **MISS.** MISS indicates that the ammunition hit outside of the vehicle's programmed template and damage the vehicle did not occur.

Note. Show Slide 30.

(11) **Movement.** MOVEMENT displays whether the vehicle was moving or stationary when the round was fired. Y indicates that the vehicle was moving during the engagement and N indicates that it was stationary.
(12) **Range crew.** This column displays the range used by the fire control system for simulation. For the Bradley, PGS stores the range selected on the range knob. For the M1/M1A1/M1A2, range solution used in the fire control is presented.
(13) **CANT.** The CANT column presents the cant angle for FIRE results related to the actual cant angle of the firing vehicle at the instant the trigger was pulled. The cant angle is presented in relation to the turret position as seen from the gunner's seat. A positive cant angle indicates that the vehicle was leaning to the right and a negative cant angle indicates that the vehicle was leaning to the left.
(14) **EVENTS IN LIST.** These checkboxes define the data that will be sorted and presented in the event list each time a TDRS memory card is downloaded.
(15) **EXCEL®.** The EXCEL® column defines the data that will be stored in the EXCEL® file when this mode of data storage is activated.

Note. Show Slide 31.

h. **AAR Preparations.** Prior to performing the AAR, the instructor must set up the computer to present the relevant information for a particular training exercise.

(1) Select the columns to be presented during the AAR (SELECT LOG DATA menu).
(2) Select the type of information to be presented upon downloading a TDRS memory card (events in list selection).

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

(3) Select the information to be transferred to EXCEL®.
(4) Adjust color of event types as required for results to be easily viewed/found in the event list.

Note. Show Slide 32 .

I. **AAR of Tracking Training Exercise.** A TDRS memory card containing a tracking training exercise has results in the TRACKING events column. To view the results, select the result to be viewed and double click on the word TRACKING above the result. The following menu is presented.

Note. Show Slide 33.

(1) **Elevation axis.** The elevation axis displays the tracking movement as seen from the flank (i.e. the vertical movement of the aiming point in relation to center of mass of target). The measurement of tracking movements (item 32) is in meters. The scale on the axis (item 33) is meters for missile weapons and tracking time for ballistic weapons.
(2) **Azimuth axis.** The azimuth axis displays tracking movement as seen from above (i.e. the left/right movement of aiming in relation to center of mass of target). The measurement of tracking movements (item 32) is meters. The scale on the axis (item 33) is meters for missile weapons and tracking time for ballistic weapons.
(3) **Command buttons** (item 34). Tracking movement can be replayed using the RESTART button or stopped by using the STOP button. To continue tracking movement, click on CONTINUE, and to close the screen and return to the AAR list screen, click on CLOSE.
(4) **Sight presentation** (item 37). The actual aiming is be viewed. The sight reticle is presented on the target silhouette and tracking movement is shown. The figure of merit (item 35) indicates how well the gunner stayed within the maximum aim offset allowed. A "blue box" (scaled in meters) is positioned over the target silhouette and can be used as a reference during evaluation. The tracking movement in the sight presentation can be switched ON/OFF using the SHOW TRACK checkbox (item 36).

Notes. 1. Prior to students' arrival, ensure an assistant instructor is assigned to each vehicle training station.
2. Direct students to their appropriate training station.
3. Each assistant instructor is to conduct a safety briefing for his small group IAW Appendix B.
4. Whenever possible, have the students serve as demonstrators during small group instruction. Have one student read the procedures while another student performs the task. To ensure all students get equal hands-on time, rotate the reading and performance responsibilities.
5. The assistant instructor discusses and clarifies the procedure as required and reinforces the training objective.
6. Using practical exercises (Appendix D), practice TDRS memory card setups.

14-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

7. Verify practical exercises using vehicle stations.

14-3. TEST. (20 minutes)

See Appendix C

14-4. FINAL REVIEW. (5 minutes)

a. **Student Questions.**

Note. Show Slide 34.

b. **Summary of Main Teaching Points.**

(1) AAR list controls and indicators
(2) Set up of AAR list screen
(3) Preparation for AAR
(4) Downloading/storage of AAR data
(5) Downloading of AAR data to EXCEL®
(6) AAR for tracking training exercise

Note. Show Slide 35.

c. **Closing Statement.** This block of instruction has prepared you to properly use the AAR list portion of the AAR software.

APPENDIX A
TO LESSON PLAN 14

AFTER ACTION REVIEW (AAR) LIST

TOOLS, EQUIPMENT, AND MATERIALS

A-1. CLASSROOM STATION.

Listed equipment is one per student, except as noted.

1. TDRS computer unit (one per two students)
2. TDRS memory card
3. TM 9-6920-711-12&P-1

A-2. VEHICLE STATION.

Listed equipment is one per four students, except as noted.

1. M2/M3 BFV with PGS installed and aligned
2. Boresight panel with retro reflector unit (one per class)
3. Training area with a minimum of 1200 m of maneuver space

APPENDIX B
TO LESSON PLAN 14

AFTER ACTION REVIEW (AAR) LIST

SAFETY

Listed general safety regulations are to be strictly enforced during performance of this lesson.

1. Mount and dismount vehicle over left front fender or through the back ramp.
2. Maintain three points of contact while on top of vehicle.
3. No smoking within 50 m of vehicle.
4. Do not go over or under gun barrel.
6. Ensure turret traverse lock is engaged before entering turret or working in or around turret.
5. LASER SAFETY: Do not view transceiver unit with optics from a distance of 25 m or less.
7. Ensure vehicle master power switch and turret power switch are in OFF position before connecting or disconnecting cables.
8. No cables should be connected or disconnected by untrained personnel.
9. Ensure proper hearing protection is worn when using pyrotechnics.
10. If TOW ATWESS device is used, ensure area is clear 50 m to the rear and 25 m to the sides.

APPENDIX C
TO LESSON PLAN 14

AFTER ACTION REVIEW (AAR) LIST

TEST ADMINISTRATIVE GUIDE

C-1. TASK.

Administer test, *After Action Review (AAR) LIST*.

C-2. CONDITIONS.

Given a TDRS computer unit, TDRS memory card containing training data, a 3.5 in. disk, and TM 9-6920-711-12&P-1.

C-3. STANDARDS.

The student will correctly set up the TDRS computer unit for AAR, download training data from the TDRS memory card and save exercise results in the computer memory and on the 3.5 in. disk within 15 minutes.

C-4. PERSONNEL, EQUIPMENT, AND MATERIAL REQUIRED.

a. Evaluator
a. TDRS computer unit (one per student)
b. TDRS memory card with training data (one per student)
c. 3.5 in. formatted disk (one per student)
d. TM 9-6920-711-12&P-1 (one copy per student)
e. Scoring checklist Appendix C (one copy for each student tested)

C-5. TEST PLANNING TIME.

Administrative time:	5 minutes
Test time:	15 minutes
TOTAL TIME (per student):	20 minutes

C-6. OTHER INFORMATION.

Before the student arrives, the evaluator will:

a. Ensure that each computer is operational and switched OFF.

C-6. OTHER INFORMATION (Con't).

b. Ensure that each bench has one TDRS computer unit, TDRS memory card, and TM 9-6920-711-12&P-1
c. Have scoring checklist ready for student to be tested.

C-7. INSTRUCTIONS TO STUDENT.

"The purpose of this test is to evaluate your understanding of the TDRS computer unit AAR list. You will have 15 minutes to complete the test. All information needed for the test is available in the test guidelines. Your time will start when I announce 'BEGIN' and end when you announce 'FINISHED'. You may use the materials in front of you during the test".

"Do you understand the requirements of this test?" (Answer questions)
"You may begin." (Start time)

AFTER ACTION REVIEW (AAR) LIST

Student Guidelines

C-8. TASK.

a. You will prepare the TDRS computer unit for an AAR of a table IV panel gunnery exercise. This test involves four steps which will be demonstrated to the evaluator.

(1) Set up of TDRS computer unit prior to AAR
(2) Download information and present data
(3) Store data on the computer
(4) Store data on a 3.5 in. disk

b. The TDRS computer unit must be set up according to data provided below.
c. After the preparation of the TDRS computer unit, download the first crew's training data from the TDRS memory card. Demonstrate to the evaluator that the information has been downloaded properly.
d. Finally, demonstrate to the evaluator how to store the data in the computer and on the 3.5 in. disk according to the names provided below (see paragraphs C-11 and C-12).

C-9. COMPUTER SETUP INFORMATION.

The following columns are the only columns that shall be presented during the AAR.

a. Time
b. Event
c. Ammo
d. Crew range
e. Actual range
f. Azimuth
g. Elevation
h. Effect
i. Movement

C-10. LIST DATA.

Sort only gunnery events on the list.

C-11. FILE NAME FOR COMPUTER.

Store the training results on the computer as B24TT4A.

C-12. FILE NAME FOR 3.5 IN. DISK.

Stored the training results on the disk as B24TT4A.TXT

AFTER ACTION REVIEW (AAR) LIST

Scoring Checklist

NAME _____ UNIT _____

GRADE _____ DUTY POSITION _____

	GO	NO GO
1. Setup of computer prior to AAR		
a. Correct columns checked in the SETUP LOG DATA menu	_____	_____
b. Gunnery selected in the events in list portion of SETUP LOG DATA	_____	_____
2. Download of training data from TDRS memory card		
a. Multiple card unchecked prior to download	_____	_____
b. Data properly presented in columns on the LIST screen	_____	_____
3. Saving data in computer		
a. Save Log command button selected to store the training data.	_____	_____
b. Proper name input in text box in save menu	_____	_____
c. Select used to save the data	_____	_____
4. Saving data to disk		
a. Placed 3.5 in. disk in computer	_____	_____
b. EXCEL command button selected to save the information	_____	_____
c. Drive A selected in the save file dialog box	_____	_____

	GO	NO GO
d. Proper name and file extension (.TXT) input as file name	_____	_____
e. File properly saved to drive A	_____	_____

	GO	NO GO	INITIALS
Soldier satisfactorily completed all requirements?	_____	_____	_____

EVALUATOR _____ DATE _____

REMARKS _____

APPENDIX D
TO LESSON PLAN 14

AFTER ACTION REVIEW (AAR) LIST

PRACTICAL EXERCISES

D-1. BT XI EXERCISE.

a. You will prepare a TDRS memory card and TDRS computer unit for a BT XI exercise. You are assigned to 2nd platoon BTrp 3/4 CAV 3 ID. Each group will program a TDRS memory card for a Bradley in the platoon. The platoon has been given 500 rounds of main gun ammunition (200 AP, 300 HE), 12 TOW 2 missiles, and 800 coax rounds. The platoon ID numbers are 17 for B21, 18 for B22, 19 for B23, and 20 for B24. Program the remainder of the TDRS memory card with the information used for your individual vehicle card (Bradley commander and gunner Names, obscuration, tracer, loadtimes, etc.).

b. During the AAR, use only firing results such as ammunition, time, impact point, and all vehicle related events. Target and BIT results should not appear. The evaluation will be made using panel target silhouettes.

D-2. FORCE-ON-FORCE EXERCISE.

a. You will prepare a TDRS memory card and TDRS computer unit for a force-on-force exercise between two platoons, 1st platoon BTrp 3/4 CAV 3 ID and 3rd Plt ATrp 3/4 CAV 3 ID. Each Bradley has a full basic load of ammunition. Use the auto increment box in the SETUP menu to program the platoon IDs. The B Trp units will start ID at 19 and the A Trp units will begin with 120. Each soldier will program a TDRS memory card. The control panel will be disabled during the training exercise. All crew data (Bradley commander and gunner names, loadtimes, etc.) will be assigned by the soldier using his actual unit information.

b. Set up of the ARR will include only target system events (and relevant columns for target events) presented on a generic silhouette.

APPENDIX E
TO LESSON PLAN 14

AFTER ACTION REVIEW (AAR) LIST

STUDENT HANDOUT

E-1. HITS EVENTS CHECKBOX.

These events are presented when Hits is selected.

a. Impact results from TWGSS-/PGS-equipped firing systems
b. Impact results from MILES-equipped firing system
c. Control gun events
d. Autoactivation events (panel gunnery only)
e. Tamper events

E-2. GUNNERY EVENTS CHECKBOX.

These events are presented when Gunnery is selected.

a. Firing events
b. Reload of turret and hull by controller
c. Upload of ammunition by crew
d. Tracking training events

E-3. OTHER EVENTS CHECKBOX.

These events are presented when Other is selected.

a. LRF events
b. Laser alignment events
c. Power ON

E-4. SYSTEM EVENTS CHECKBOX.

These events are presented when System is selected.

a. ERROR messages
b. NO CONNECTION messages
c. ERROR CLEARED messages
d. BIT performed

E-5. AAR TEXT FOR MILES ACTIVITIES.

MILES Code Fired	AAR Text
0	100% universal kill (Control gun)
1	Maverick
2	Hellfire
3	Sagger
4	60/81 mm
5	M15A Mine
6	Weapon
7	TOW
8	Dragon
9	M202 Flame
10	M 21 Anti-tank
11	Claymore
12	105 mm
13	152 mm
14	2.75 inch rocket
15	Viper
16	120 mm
17	90 mm
18	105 HOW
19	Granade 40 mm
20	Rockeye (CB)
21	25 mm
22	ZSU 23-4
23	Vulcan 20 mm
24	M2
25	Chapparal
26	Stinger
27	Coax
28	Heavy weapon miss.
29	Light weapon miss spare
30	Light weapon miss.
31	Heavy weapon miss spare

E-6. AAR TEXT FOR TARGET SYSTEM ACTIVITIES.

AAR Text	Activity
CG KILL	Target system detected KILL sent by control gun
CG RESET	Target system detected RESET sent by control gun
CG TEST	Target system detected TEST sent by control gun
CG CONTROLLER ACCESS	Target system detected CONTROLLER ACCESS sent by control gun
CG TIME MARK	Target system detected TIME MARK sent by control gun
KILL	Target system evaluated a round impact to be a Catastrophic KILL
MOBILITY KILL	Target system evaluated a round impact to be a MOBILITY KILL
WEAPON KILL	Target system evaluated a round impact to be a WEAPON KILL
HIT	Target system evaluated a round impact to be a HIT but not a KILL
MISS	Target system evaluated the round to pass outside of the vehicle's target outline
AUTOACTIVATE	Target system KILL is in PANEL GUNNERY MODE reset after 10 seconds and the vehicle is again operational
TAMPERING KILL	Indication of system tampering or damage.
MILES KILL	Target system evaluates firing from MILES as KILL
MILES HIT	Target system evaluates firing from MILES as HIT no kill
MILES MOBILITY KILL	Target system evaluates firing from MILES as MOBILITY KILL
MILES WEAPON KILL	Target system evaluates firing from MILES as WEAPON KILL

E-7. AAR TEXT FOR AMMUNITION IMPACT ON TARGET.

AAR Text	Ammunition Impact	Notes
SABOT 1 105	105 mm SABOT 0-1000 m distance	
SABOT 2 105	105 mm SABOT 1000-2000 m distance	
SABOT 3 105	105 mm SABOT 2000-3000 m distance	
SABOT 4 105	105 mm SABOT 3000-3750 m distance	3750 m is max. distance for TWGSS/PGS
HEAT 105	105 mm HEAT 0-3750 m distance	
SABOT 1 120	120 mm SABOT 0-1000 m distance	
SABOT 2 120	120 mm SABOT 1000-2000 m distance	
SABOT 3 120	120 mm SABOT 2000-3000 m distance	
SABOT 4 120	120 mm SABOT 3000-3750 m distance	
HEAT 120	120 mm HEAT 0-3750 m distance	
SABOT 1 25	25 mm SABOT 0-1000 m distance	
SABOT 2 25	25 mm SABOT 1000-2000 m distance	
HEI 25	25 mm HEAT 0-3000 m distance	
TOW	TOW Basic 0-3000 m distance	
TOW 2	TOW 2 0-3750 m distance	
COAX	7.62 mm ammunition 0-900 m distance	

APPENDIX F
TO LESSON PLAN 14

AFTER ACTION REVIEW (AAR) LIST

VIEWGRAPHS